

Claims

1. Wind energy facility (1) with a completely closed or at least partially closed cooling circuit, with which the heat to be dissipated from the cooling circuit is dissipated by the tower (3) or the nacelle (2) of the wind energy facility (1).

2. Wind energy facility according to Claim 1, characterized in that the tower (3) has at least one cooling channel (11, 12), and the coolant, preferably air, flows through this channel.

3. Wind energy facility according to one of the preceding claims, characterized in that both the driving line (3, 4) of the wind energy facility or parts of the driving line and/or the electrical devices (8, 9) for converting the electrical energy are connected to the cooling circuit.

4. Wind energy facility according to one of the preceding claims, characterized in that the tower (3) is configured with two walls over at least two sections along its longitudinal axis (Figure 4) and a double-walled region forms a cooling channel (12, 11), with which the heated air introduced into the cooling channel dissipates its heat to the outer wall of the tower (3).

5. Wind energy facility according to one of the preceding claims, characterized in that the same air is used essentially continuously for cooling the main driving line (3, 4), as well as the devices (8, 9) of the power electronics.

6. Wind energy facility according to one of the preceding claims, characterized in that the cooling channel is supplied by at least one fan (10) that serves to circulate air within the cooling circuit.

7. Wind energy facility according to one of the preceding claims, characterized in that the wind energy facility can be kept in operation even for outside temperatures of approximately -20°C to -40°C, and the tower can be heated by the cooling circuit.

8. Use of the tower of a wind energy facility as a cooling element and/or a heat exchanger for cooling air heated by devices that generate heat, e.g., the driving line and/or electrical device for converting electrical energy, of the wind energy facility.

9. Wind energy facility according to one of the preceding claims, characterized in that the wind energy facility has at least two completely closed or at least partially closed cooling circuits, wherein one cooling circuit serves for cooling the driving line of the wind energy facility, and the other cooling circuit serves for cooling the electrical device for conversion of electrical energy.

10. Wind energy facility according to one of the preceding claims, characterized in that there is at least one air line that serves to transport heated air.

11. Wind energy facility according to Claim 10, characterized in that the air line is formed by a tube connected to a heat generator, e.g., to the air outlet opening of an electrical device for converting electrical energy, and/or parts of the driving line (generator).